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09/908,992	07/19/2001	Joshua Syken	HMV-054.01	6851

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EXAMINER

LI, QIAN J

ART UNIT	PAPER NUMBER
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1632

16

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/908,992

Applicant(s)

SYKEN ET AL.

Examiner

Q. Janice Li

Art Unit

1632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-49 is/are pending in the application.
- 4a) Of the above claim(s) 9-20, 33-35 and 39-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-8, 21-26, 36-38 and 47-49 is/are rejected.
- 7) ☐ Claim(s) 4, 27-32, 42-46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

Applicants' amendment and response filed 6/18/03 have been entered as Paper No. 15. Claims 1 and 3 have been amended. Claim 2 has been canceled. Claims 21-48 are newly added.

Please note that new claims presented two "claim 46", therefore, claims 46-48 have been renumbered as claims 46-49 according to 37 C.F.R. 1.126 (see MPEP 608.01 (j) and 608.01 (n)/IV).

Newly submitted claims 33-35 and 39-41 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 33-35 and 39-41 are drawn to a nucleic acid encoding a Tid-1 polypeptide that is mouse origin, whereas original claimed nucleic acid sequence is human origin. The sequences from human and mouse are structurally different, the search and consideration are not co-extensive. The claims would have been restricted if presented originally. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 33-35 and 39-41 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims 1 and 3-48 are pending, however, claims 9-20, 33-35 and 39-41 are withdrawn from further consideration by the Examiner, pursuant to 37 CFR 1.142(b), as being drawn to non-elected inventions, there being no allowable generic or linking claim.

Claims 1, 3-8, 21-32, 36-38, and 42-48 are under current examination.

### ***Claim Objections***

Claims 36-38 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Specifically, claims 36-38 are drawn to a nucleic acid that does *not* encode SEQ ID No. 9 because there is a positional mutation in the sequence. However, claims depend from a claim (27) drawn to a nucleic acid that encodes SEQ ID No. 9. The parent claim does not embrace the dependent claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 4, 27-32, and 42-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, 5-8 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time

the application was filed, had possession of the claimed invention, and the rejection now applies to new claims 21-26 and 47-49.

In Paper No. 16, Applicants argued that the specification has sufficiently sets forth distinguishing characteristics of the claimed nucleic acid, and stated a list of reasons such are described. The arguments have been fully considered but they are not persuasive, and will be addressed as follows:

With respect to the disclosed human and mouse sequences for Tid-1S, Applicants' counsel indicated that the two proteins differ in only 5 amino acids. However, a sequence alignment of SEQ ID No: 9 (hTid-1S) and SEQ ID No: 29 (mTid-1S) would find **58** amino acid mismatches.

With respect to the disclosed human dominant negative Tid1S mutant. It is noted claims allow 10% variation of coding nucleic acids, which would be translated to at least 1-45 amino acid changes throughout the SEQ ID No. 9. It is highly unpredictable what the function of the resulting polypeptide would be considering that just one amino acid substitution at position 121 of SEQ ID NO. 9 has caused a reversal of the biological function of SEQ ID No. 9, i.e. from anti-apoptosis to pro-apoptosis.

With respect to the disclosed canonical J-domain, shown to be necessary for the anti-apoptotic activity of Tid-1S, and important in Tid-1L. It is noted that Tid-1S and Tid-1L have opposing effects in apoptotic responses, yet both contain the recited J-domain. Apparently, the presence of the J-domain could either suppress or increase apoptosis in a cell, thus the functions of the polypeptides are, at the least, not solely determined by the J-domain, in another words, the described J-domain does not provide identifying

features of the genus, one skilled in the art can not extrapolate the function of a polypeptide from the mutation in position 121 of SEQ ID No. 9 to a mutation in any position of J-domain spanning from positions 89-168 of SEQ ID No: 9, and/or any position of SEQ ID No. 9 (position 1-453).

With respect to the argument that the C-terminal specific sequence is present in both human and mouse Tid-1S, and therefore appears to be necessary for the anti-apoptotic activity of Tid-1S protein, it is noted that the specification teaches that a J-domain mutation would cause the functional reversal of the Tid-1S protein (Specification, page 5, lines 1-2), and this occurs even when the C-terminal specific sequence remains **present**. On the other hand, a J-domain mutation also cause the functional reversal of the Tid-1L from pro-apoptosis to anti-apoptosis, and this occurs even when the C-terminal specific sequence is **absent**. It is also noted that the original disclosure is silent with respect to the function of the C-terminal 6 amino acid sequence. The original disclosure only teaches that SEQ ID No. 7 (the C-terminal sequence) could be used as a PCR primer or probe (Specification, page 20, line 23, and section in page 25), and fails to teach its functional association with apoptosis. Therefore, the arguments lack support from the specification.

New claim 25 requires that the nucleic acids of claim 1 encode a protein that suppresses apoptosis. However, out of the two polypeptides disclosed in the specification (SEQ ID No: 9, and a position 121 mutant of SEQ ID No: 9), one increases apoptosis, yet its coding sequences are more than 99% identical with SEQ ID No: 3 and comprising SEQ ID No: 7. Accordingly, in view of the cited teaching of record regarding

protein structure and function, and the unpredictable nature of Tid-1S taught in the specification, it is concluded that the distinguishing structural-function characteristics of the genus has not been adequately described.

For reasons of record and set forth *supra*, the specification fails to meet the written description requirement as it is broadly claimed.

Claims 1, 3-8 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, and the rejection now applies to new claims 21-26 and 47-49.

Applicants presented the same argument as addressed in the immediate preceding section, thus the response will not be reiterated here. With regard to the 66 N-terminal amino acids of the protein in Tid-1S, it is noted that the sequence is present in both Tid-1S and Tid-1L, and will be cleaved off before entering the functional site, i.e. mitochondria, thus, does not appear to provide support for functional aspect of Tid-1S.

For reasons of record and set forth *supra*, the specification fails to meet the enablement requirements.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 36-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims are vague and indefinite because they are drawn to a nucleic acid encoding a polypeptide comprising SEQ ID No: 9, yet has a mutation at position 121. Because of the presence of the mutation, the nucleic acid encoding the mutant will not comprising the nucleic acid encoding SEQ ID No. 9.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The prior rejection of claims 1, 3-8 under 35 U.S.C. 102(b) as being anticipated by *Schilling et al* (Virol 1998;247:74-85, IDS/CB) is withdrawn in view of the claim amendment.

The prior rejection of claims 1, 3-8 under 35 U.S.C. 102(a) as being anticipated by *Skyen et al* (PNAS 1999 July 20;8499-8504, IDS/CD) is withdrawn in view of the 1.132 Declaration of *Skyen et al*.



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Claims 1, 3, 5-7, 21, 22, 26 are newly rejected under 35 U.S.C. 102(a) as being anticipated by *Han et al* (Sequence ID AF244136, GenEmb1, 2000 April 30).

*Han et al* disclose a novel gene associated with human hepatocellular carcinoma, which is 97.2% identical to SEQ ID Nos: 3 or 5 and comprising SEQ ID No:

7. Therefore, *Han et al* anticipate instant claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over *Han et al* (Sequence ID AF244136, GenEmb1, 2000 April 30), in view of *Schilling et al* (Virol 1998;247:74-85, IDS/CB).

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Claim 8 is drawn to a process of producing a polypeptide encoded by the claimed nucleic acid, *Han et al* does not clearly teach the method. *Schilling et al* teach using a plasmid containing full-length Tid-1 coding sequence operably linked to a promoter for *in vitro* production of Tid-1 protein (paragraph bridging left and right columns, page 83).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods taught by *Han et al*, by simply using the nucleic acid as taught by *Han et al* in the process of producing a polypeptide as taught by *Schilling et al* with a reasonable expectation of success. The ordinary skilled artisan would have been motivated to modify the claimed invention because the method is routine in the art for producing a polypeptide. Thus, the claimed invention as a whole was clearly *prima facie* obvious in the absence of evidence to the contrary.

### **Conclusion**

No claim is allowed. Claims 4, 23-25, 27-32, 36-38, 42-49 are free of the cited prior art of record, however, they are subject to other rejections.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Q. Janice Li whose telephone number is 703-308-7942. The examiner can normally be reached on 8:30 am - 5 p.m., Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah J. Reynolds can be reached on 703-305-4051. The fax numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of formal matters can be directed to the patent analyst, Dianiece Jacobs, whose telephone number is (703) 305-3388.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235. The faxing of such papers must conform to the notice published in the Official Gazette 1096 OG 30 (November 15, 1989).

Q. Janice Li  
Examiner  
Art Unit 1632

QJL  
September 8, 2003

ANNE M. WEHBE' PH.D.  
PRIMARY EXAMINER

